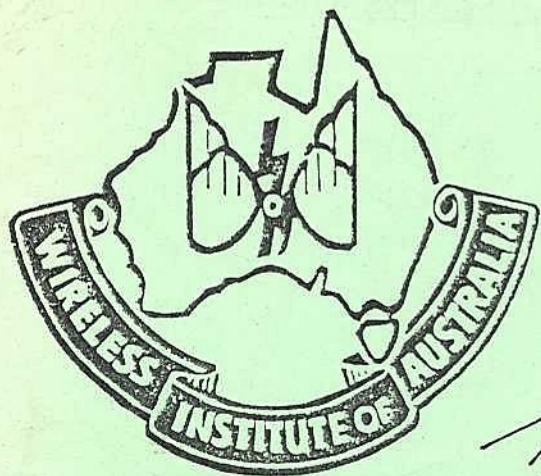


87/07 ①



B·A·R·G NEWS

JULY 1987



© Monthly Newsletter of the
Ballarat Amateur Radio Group

REGISTERED BY AUSTRALIA POST, PUBLICATION NO. VBH3397

87/072

BALLARAT AMATEUR RADIO GROUP INCORPORATED. OFFICERS 1987-88.

EXECUTIVE COMMITTEE.

			<u>Home</u>	<u>Business</u>
<u>PRESIDENT</u>	Ron Watkins.	VK3 XOA	35 6017	32 1447
<u>IMM.PAST PRESIDENT</u>	Bob Terrill.	VK3 BNC	39 5317	39 1001
<u>VICE PRESIDENT</u>	John Hazledine.	VK3 CFH	39 1971	39 1035
<u>SECRETARY</u>	Jim Wright.	VK3 CFB	32 7563	
<u>ASST.SECRETARY</u>				
<u>TREASURER</u>	Harry Hekkema.	VK3 KGL	35 7563	39 1001
<u>PUBLICITY OFFICER</u>	Gordon Cornell.	VK3 PUW	39 2427	39 1135
<u>EDUCATION OFFICER</u>	Ian McDonald.	VK3 AXH	41 3717	31 1317
<u>NET CO-ORDINATOR</u>	Reg Carter.	VK3 CAZ	41 3566	
<u>TECHNICAL OFFICER</u>	Dick Forrester.	VK3 VU	35 7663	39 1001
<u>MEMBERS REPRESENTATIVE</u>	Neil Davidson.	VK3 KQQ	35 9612	

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OFFICERS AND COMMITTEES.

<u>NEWSLETTER EDITOR</u>	Ron Watkins.	VK3 XOA	35 6017	32 1447
<u>Q.S.L.MANAGER</u>	Cliff Bilston.	VK3 CCB		
<u>AWARDS MANAGER</u>	Maurie Batt.	VK3 XEX	42 2245	
<u>PROPERTY OFFICER</u>	Dick Antoziewicz.	VK3 AEX	32 3273	31 1818
<u>HAMFEST CONVENER</u>	Kevin Hughes.	VK3 WN	35 5011	
<u>WICEN COMMITTEE</u>	Dick Antoziewicz.	VK3 AEX	32 3273	31 1818
	Dick Forrester.	VK3 VU	35 7663	39 1001
	Geoff Smith.	VK3 ADB	33 2112	
<u>NEWSLETTER COMM.</u>	Bob Terrill.	VK3 BNC	39 5317	39 1001
	Ron Watkins.	VK3 XOA	35 6017	32 1447
	Dick Forrester.	VK3 VU	35 7663	39 1001
	John Brown.	VK3 CJB	39 1014.	
<u>TECHNICAL COMM.</u>	Dick Forrester.	VK3 VU	35 7663	39 1001
	Phil Seddon.	VK3 AQM	31 5220	31 3166
	Maurie Batt.	VK3 XEX	42 2245	

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B.A.R.G.meets on the LAST FRIDAY of every month except December at the Ballarat Education Centre,Hopetoun St,Ballarat.7.30pm.

Committee meetings are held at the Education Centre on the Wednesday two weeks prior to the Club meeting at 7.30pm.
Members of the Executive Committee are expected to attend and any Club Member with business for discussion is welcome.

All correspondence should be addressed to -
The Secretary,B.A.R.G.Inc,P.O.Box 216E,Ballarat East.3350.

Applications for Awards to-Maurie Batt,R.S.D.Rokewood Junction.3351.

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July 1987

B.A.R.G. Annual General Meeting held 26th June, 1986.MEETING OPENED by George DOK at 8.00pm with 23 Members in attendance.APOLOGIES. VK3 BNC, DFC, PUA, SE, NIZ, XEX, ADB, CFH.MINUTES of previous meeting as circulated were confirmed. NFZ/KQFCORRESPONDENCE IN Nil.CORRESPONDENCE OUT WIA cheque for disposal rigs purchased.TREASURERS REPORT An audited balance sheet for 1986-87 presented and circulated.
Accounts for payment passed. CCB/VUPRESIDENTS REPORT as circulated in newsletter received.QSL MANAGER Cliff CCB reported that no cards had been received for 3 months.AWARDS MANAGER Maurie XEX report as printed in newsletter received.PROPERTY OFFICER Dick AEX circulated list of BARG property as at 26th June.NEWSLETTER Ron XOA is still chasing material for publication. PLEASE ASSIST.EDUCATION OFFICER Ian AXH has received a couple of enquiries about courses.HAMVENTION Kevin WN stated that Sebastopol F.C. rooms have been booked and all other details were in hand.WICEN Operators will be required for the BIKE RIDE in December.REPEATERS Dick VU reported that RBS is now located at Smeaton and thanked all those who assisted with the installation in atrocious weather conditions. Work is now in hand on the Digital and UHF repeaters.GENERAL BUSINESS. Cliff CCB gave some suggestions for a new Award using contacts with County's. Further details later.WESTERN DISTRICT WIA President Ken KAV spoke on the financial problems at present being experienced by the lack of a Zone Grant for 1986, he also gave a rundown on the Zone activities, and we thank him for making the trip from Hamilton to visit our Club.MOTION Moved Ian AXH seconded Gordon PUW that unless satisfactory answers are received from the WIA Vic Division this Club will consider what further action can be taken to assist the Western Zone. Carried.ELECTION OF OFFICERS 1987-88 The election of officers for the coming year were then conducted by George DOK and Ron XOA was elected President. A full list of elected officers appears on the inside coverMEETING CLOSED by President Ron at 9.50pm. Pies and Pasties for supper.NEXT BARG MEETING Friday 31st ^{July} at Ballarat Education Centre. 7.30pm.COMMITTEE MEETING Wednesday 12th August at Education Centre. 7.30pm.

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73s Jim CFB.

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B.A.R.G. FINANCIAL STATEMENTS.

JUNE 1987 C.S.B. A/c.

RECEIPTS

Cr. Bal. B/Fwd. June 86	\$ 487.65
Subscriptions	557.50
M.Batt - Awards	200.00
Donations	34.60
Commission Junk Sale	33.40
Sale of Books	128.00
Sale of Novice Books	18.00
Advert. Space in Magazine	24.00
Bank Interest	7.99
Bus Fare Collections	110.00
Sale of Equipment	310.00
Raffle Proceeds	58.10
Transferred from Hamvention A/c	1269.00
Transferred from V.S. & L. A/c	700.00
Western Zone Grant	400.00
Transferred from Repeater A/c	26.00

\$4364.24
PAYMENTS

Petty Cash	\$ 80.00
Petrol Allowance	30.00
Room Hire	110.00
Newsletter Printing	236.35
Australia Post	163.80
Rental Private Box	23.00
Newsletter Registration	40.00
B.C.E.C. Membership Fee	25.00
D.O.C. Licence Fees	78.00
Donations	118.40
Callbooks and Tapes	219.25
Bus Fees	115.46
Supper - Meetings	90.90
Bank Fees	10.66
Equipment	307.53
Incorporation Fees	37.00
Stationary	166.14
Raffle Prizes	163.31
Sundry Expenses	117.00
Transferred to Repeater	1100.00
Transferred to V.S. & L.	1015.00
Transferred to Hamvention	100.00
Cr. Balance	17.44

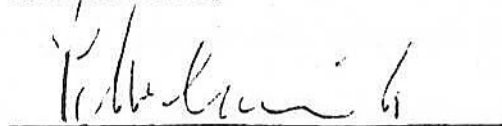
\$4364.24
V.S. & L. A/c.

Balance	\$1131.01
Deposits	1015.00
Interest	131.13
	\$2277.14

Fees	\$ 0.35
Transferred to C.S.B.	700.00
Cr. Balance	1576.79
	\$2277.14

AUDITOR'S REPORT.

I have examined the books, vouchers and documents of the BALLARAT AMATEUR RADIO GROUP and I Certify that the above mentioned Financial Statements sets out the true position as at 25th of June, 1987, according to such books and records.



L.G. McGoldrick.

SHUNT SWITCHED "N" PATH FILTERS.

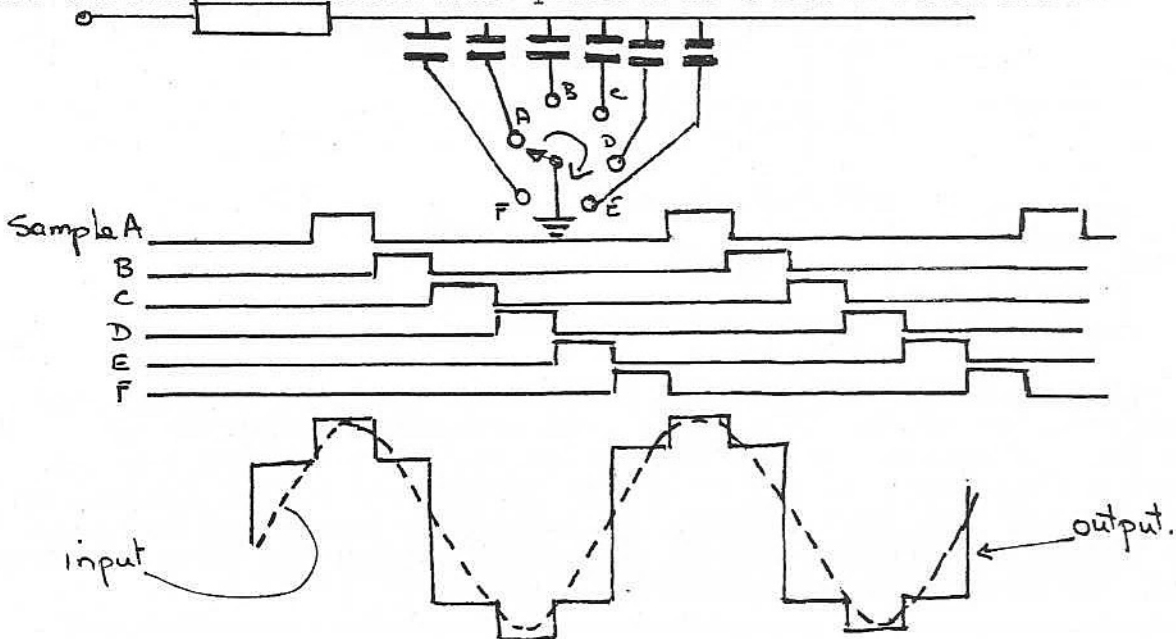
An alternative to IC or Active Bandpass wave filters can be realised using digital techniques to produce a commutating filter.

The fundamental operation of a commutating filter is based on switching N identical low-pass filter sections at a 'clock rate' of N times the desired centre frequency. This switching has the effect of reflecting the low-pass response about the commutating frequency and thereby generating a band-pass response.

It sounds complicated but in fact is really rather simple and has the advantage that the centre frequency can be varied from a few Hertz to several Megahertz by simply changing the commutating clock frequency. The bandwidth is also variable by altering the number of sections to be commutated.

The filter acts by carrying out a "sample and store" process and the output is, therefore a stepped approximation of the input waveform. However a "post filter" with a cutoff frequency selected so as to discriminate against the sampling frequency can be used to remove the stepped appearance. In many audio cases a simple transformer such as is found in cheap transistor radio's will suffice as the "post-filter".

The circuit shown below will perform as a six section filter



In this circuit the switch, of course electronic here, is used to select each capacitor in turn.

If the incoming signal frequency is one sixth (in this specific case) of the clock or switching rate then each capacitor is fed with the same level of voltage each time it is switched into circuit and will rapidly charge to a steady value. As the individual capacitors are sequenced by the commutator a step format reproduction of the input waveform appears at the output. Once the capacitors have charged to their respective voltages there is little attenuation of the incoming signal.

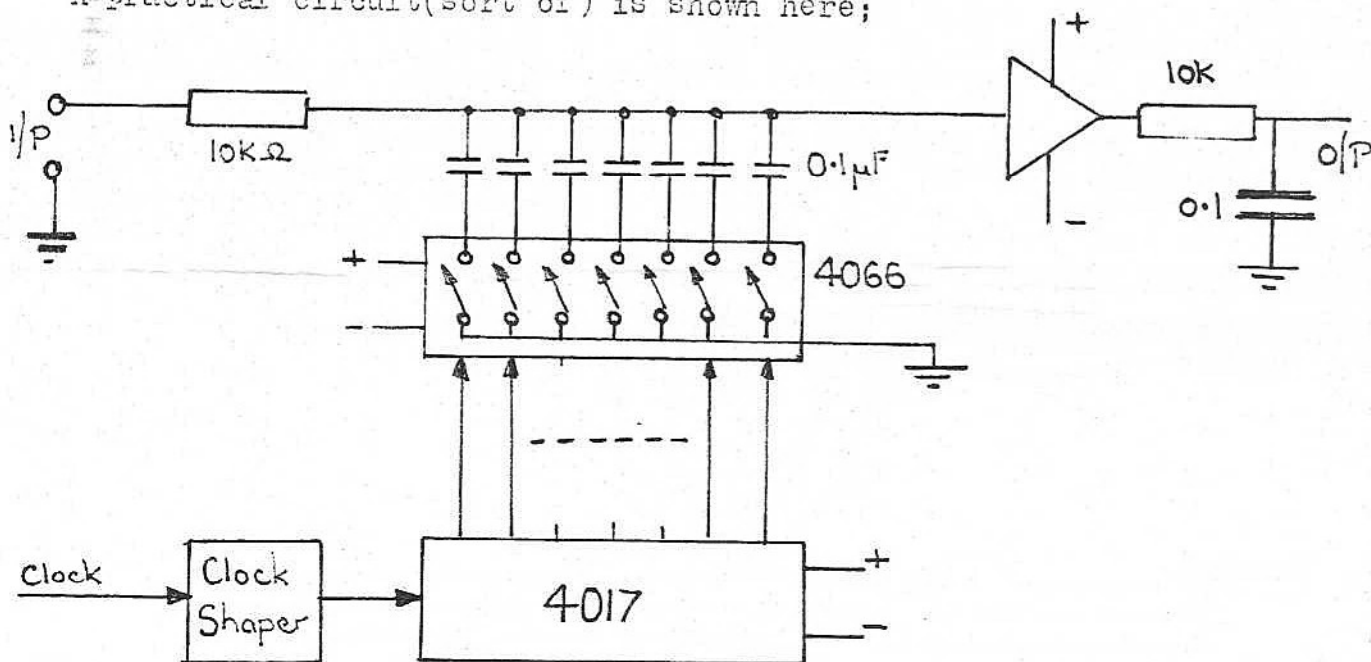
If now the input frequency is shifted higher or lower than the commutating (i.e. resonant) frequency the voltage fed to each capacitor will be different for each commutating cycle; remember that at "resonance" each capacitor sees the same segment of the waveform each time.

Previously at resonance after a short "settling time" there was no further current flow either into or out of each capacitor- now for conditions "off-

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resonance" current will continually flow through the series resistor and consequently produce a voltage drop across this resistor so forming a voltage divider with the capacitor selected, resulting in a fall off in output voltage due to this voltage sharing. Since this happens both sides of "resonance" it will give rise to the familiar "band-pass" characteristic. To change the centre frequency all we have to do is to change the "clock" frequency and we have a new value of "resonant" frequency. For audio use we can utilise an audio oscillator as the clock and feed it through a "squarer" before use.

A practical circuit (sort of) is shown here;



The 4017 is a decade counter and is used to close, in sequence, the bi-lateral switches of the 4066 (each 4066 contains 4 switches so we would need 3 of them to handle the ten outputs of the 4017 and would ignore two of the twelve switches). The output of the filter can be fed through an isolating "op-amp" and then through the previously mentioned low-pass filter to remove the stepped shape. The clock shaper can be a Schmitt-trigger IC, or an overdriven transistor squarer.

Is this the way you assess your staff?

JOB PERFORMANCE APPRAISAL SCALE

	A	B	C	D	E
Area of Performance	Far Exceeds Job Requirements	Exceeds Job Requirements	Meets Job Requirements	Needs Improvement	Does Not Meet Minimal Requirements
Quality of work	Leaps tall buildings with a single bound	Leaps tall buildings with a running start	Can leap short buildings if prodded	Bumps into buildings	Cannot recognise buildings
Promptness	Is faster than a speeding bullet	Is as fast as a speeding bullet	Would you believe a slow bullet?	Misfires frequently	Wounds self when handling guns
Initiative	Is stronger than a locomotive	Is as strong as a bull elephant	Almost as strong as a bull	Shoots the bull	Smells like a bull
Adaptability	Walks on water	Keeps head above water under stress	Washes with water	Drinks water	Passes water in emergencies
Communications	Talks with God	Talks with angels	Talks with himself	Argues with himself	Loses argument with self.

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An outing to the Bureau of Meteorology will take place on Saturday 8th August. The bus will be leaving Ballarat at 1430 Hrs (2:30pm) for the Bureau's Broadmeadows complex. Numbers are strictly limited, the first 14 people to pay their money at the next meeting will be the lucky ones.

Where is it? A manual produced by the ATV roadshow gang. It previously lived in the shack of VK3XOA. Entitled, Building an ATV transmitter.

Wanted. Your ideas. If you have any ideas on what you would like the group to undertake this year, please let myself or a member of the committee know. The committee have made some plans, but, we would like your ideas as well. VK3XOA.

SO YOU THINK YOU'RE CLEVER

HERE is a quiz that's practically guaranteed to have you tied in mental knots for an hour or so. You'll probably hate us when you get through. If so, you can repair your shattered ego by trying some of these teasers on friends.

If you can answer every question right, you are obviously a genius. Anyone who makes only five mistakes or less is still fit company for the Brains Trust. But any mortal with the normal complement of brains should get nine to twelve right out of the twenty-one.

There are plenty of catch questions, with no holds barred, so read every word carefully.

1. If 3 cats can kill 3 rats in 3 minutes, how long will it take 100 cats to kill 100 rats?
2. A whisky-and-soda costs 55 cents. The whisky costs 50 cents more than the soda. How much does the soda cost?
3. A little Eskimo and a big Eskimo are walking in the snow. The little Eskimo is the big Eskimo's son. The big Eskimo is not the little Eskimo's father. Who is it?
4. Which is correct: 8 and 8 are 15, or 8 and 8 is 15?
5. Is it legal for a man to marry his widow's sister?
6. A monkey is at the bottom of a 30-foot well. Each day he jumps up three feet and slips back two. At that rate when will the monkey reach the top?
7. There are 10 black stockings and 10 white stockings in a drawer. If you reach into the drawer in the dark, what is the minimum number of stockings you must take out before you are sure of having a pair that match?
8. Take two apples from three apples and what have you got?
9. I have two minutes in which to catch a train, and two miles to go. If I go the first mile at the rate of 30 miles per hour, at what rate must I go the second mile in order to catch the train?
10. The number of eggs in a basket doubles every minute. The basket is full of eggs in an hour. When was the basket half full?
11. A shepherd had 17 sheep. All but nine died. How many did he have left?
12. A rope ladder 10 feet long is hanging over the side of a ship. The rungs are a foot apart, and the bottom rung is resting on the surface of the ocean. The tide rises at the rate of six inches an hour. When will the first three rungs be covered with water?
13. Two fathers and two sons each shot a duck, and none of them shot the same duck. Only three ducks were shot. Why?
14. A customer hands a cigar salesman a five dollar bill for two dollars' worth of cigars. The latter has no change, but gets some next door from another salesman, who gives him five one dollar bills for the five dollar bill. The customer leaves with the cigars and three dollars in change. Later the second salesman rushes in, saying the five dollar bill was counterfeit. The first salesman gives him a good five dollar bill. How much did the cigar salesman lose in money and cigars?
15. What is the smallest number of ducks that could swim in this formation: two ducks in front of a duck, two ducks behind a duck, and a duck between two ducks?

16. A boat will carry only 200 pounds. How may a man weighing 200 pounds and his two sons, each of whom weighs 100 pounds, use it to cross a river?

17. A set of ten books is arranged in orderly fashion on a shelf. Each book has 100 pages, making 1,000 pages in all. A worm starting on the first page of the first book eats through the last page of the last book. How many pages has he eaten?

18. The archaeologist who said he found a silver coin marked 649 B.C. was either lying or kidding. Why?

19. Two trains, 100 miles apart, approach each other on the same track, the first at the rate of 60 miles an hour, the other at the rate of 40. A bee is going 25 miles an hour. What distance does it cover by the time the trains meet, if it started at the same time as the trains?

20. A king, wishing to get rid of his prime minister, puts two pieces of paper in a hat. He tells a judge present that if the prime minister draws out the scrap marked "Stay" he may remain in the kingdom, but if he draws the scrap marked "Go" he must scam. The hitch is that the king wrote "Go" on both scraps of paper. But when the crafty prime minister showed the judge one piece of paper, the judge decided in his favor. How did the prime minister outwit the king?

21. In which book of the Bible does it tell about Abel's slaying Cain?

ANSWERS TO "SO YOU THINK YOU'RE CLEVER"

1. Three minutes. It takes each cat three minutes to kill each rat.
2. Two and a half cents.
3. Mother.
4. Neither; 8 and 8 are still 16.
5. Only dead men have widows.
6. On the 28th day. At the end of the 27th day he had ascended 27 feet. On the 28th day, he reaches the top.
7. Three. You might have a pair after taking out two, but the third one must match either the black or the white stocking already removed.
8. Two apples, of course.
9. Too bad you missed it. You used up all your time going the first mile.
10. In 59 minutes. If the basket is full in 60 minutes, it was half-full a minute earlier, or at the end of 59 minutes.
11. Nine.
12. Never. The ladder and ship will rise with the tide.
13. There were a grandfather, father, and son. The father was both father and son.
14. Five dollars, two in merchandise and three in cash.
15. Three ducks in a row, one after the other.
16. The two sons go first. One brings back the boat and Pappy rows over. Then the other son returns for his brother.
17. He ate 802. Look at a row of books on a shelf. You can see why the worm didn't touch 99 pages of the first and 99 pages of the last.
18. How did anyone know Christ was coming in 649 years?
19. Twenty-five miles. The trains met in an hour, giving the bee one hour to travel.
20. The prime minister destroyed the first scrap he drew, and since the other said "Go," the scrap he disposed of must have said "Stay," the judge decided.
21. None. Cain slew Abel.

The following page lists the major meteor streams, visible from southern latitudes, by courtesy of the National Association of Planetary Observers.

In the table, the dates of the approximate duration of each stream are given along with the date of maximum.

Due to the effects of perspective, meteors associated with an individual stream appear to radiate from a particular part of the sky. The approximate co-ordinates of these radiant points are also listed.

The Zenithal Hourly Rate, 'ZHR', is a theoretical rate for an experienced observer watching a sky of limiting magnitude 6.5, with the radiant in the zenith. The maximum Observed Hourly Rate, 'OHR', occurs when the radiant is positioned on the observer's meridian. Sky conditions can alter rates considerably and observers should record the approximate naked eye stellar limiting magnitude of stars in the areas being watched during each observing session. The rates given are only a guide.

The list is restricted to streams with ZHRs of 10 or more. Many of these streams need more observational work. The Meteor Section welcomes observations of these showers.

MAJOR SOUTHERN HEMISPHERE METEOR STREAMS

NAME	DATE OF MAXIMUM	APPROX DURATION	RADIANT		APPROX RATES		COMMENTS
			R.A.	Dec.	ZHR	OHR (MAX)	
Gamma Corvids	unknown	Jan 9 - Jan 26	182	-18	variable		
Alpha Carinids	Feb 2	Jan 25 - Feb 8	96	-54	11	11	Slow, bright and various colours
Alpha Centaurids	Feb 8	Jan 29 - Feb 20	210	-59	variable		Fast, yellow and leave trains
Omicron Centaurids	Feb 12	Feb 2 - Feb 18	178	-56	10	10	Fast, yellow and leave trains
Kappa Octantids	Feb 14	Feb 10 - Feb 18	188	-83	variable		Very faint
Gamma Normids (Cor. Australids)	Mar 14	Mar 3 - Mar 21	246	-50	10	10	Yellow and leave trains
Delta Pavonids	Several	Mar 20 - Apr 13	305	-65	variable		Fast, leave trains
Grigg-Skjellerupids	Apr 23	Apr 15 - Apr 28	112	-43	variable		Slow, yellow and orange. Fireballs
April Lyrids	Apr 21	Apr 18 - Apr 24	271	+33	12	5	Blue and leave trains
Eta Aquarids	May 6	Apr 19 - May 28	338	-02	56	48	Fast, yellow and leave trains
Beta Coronae Australids	May 18	May 7 - May 25	284	-40	12	12	Faint
Omega Scorpiids	Jun 4	May 24 - Jun 13	240	-22	14	14	Faint
Alpha Capricornids B	Several	Jun 16 - Aug 12	305	-13	10	9	Bright, yellow and blue
South Delta Aquarids	Jul 29	Jul 10 - Aug 13	339	-16	23	22	Yellow, blue, some leave trains
South Iota Aquarids	Aug 6	Jul 16 - Aug 19	335	-15	10	10	
Pi Eridanids	Aug 27	Aug 10 - Sep 7	50	-16	variable		Fast, leave trains
Sigma Orionids	unknown	Sep 23 - Oct 28	86	-03	11	10	Fast, blue and white
Orionids	Oct 22	Oct 5 - Nov 3	95	+16	22	15	Fast, yellow and green, leave trains
Leonids	Nov 17	Nov 12 - Nov 21	152	+21	variable		Fast, yellow and green, leave trains
Geminids	Dec 14	Dec 2 - Dec 19	112	+31	90	41	
Zeta Hydrids	Dec 28	Dec 20 - Dec 30	132	+06	variable		Fast, faint and leave trains

SO THE STORY GOES

A ham was going over to England for a holiday and when his neighbour Mrs Dunn heard of this she asked the ham if he could do her a favour and look up her Son named "NEARLEY" who was in London.

She told the ham that she hadn't received a letter from her Son in 12 months and was worried something was wrong.

The ham agreed to help her, and armed with Mrs Dunn's Sons unusual name of

" NEARLY " and his London address plus the area code W.C.1. he took off on his holiday.

on arrival at London airport, and after going through customs, he noticed a door with WC on it, so promptly entered and on looking along the row of doors saw number 1 on the end door.

He tapped on the door and called out " are you nearly Dunn " and a voice answered back, " yes but i can't find any paper " to which the ham replied, " that's no excuse not to write to your Mum in Australia.

=====

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Ballarat Amateur Radio Group

VK3BML

MEMBERSHIP FEES 1987-88

MEMBERSHIP FEES BECOME DUE AT THE ANNUAL GENERAL MEETING. PLEASE ASSIST THE CLUB BY PAYING PROMPTLY TO THE TREASURER HARRY HEKKEMA VK3KGL AT CLUB MEETINGS OR BY MAIL TO P.O. BOX 216E, BALLARAT EAST. THE SCALE OF FEES IS AS FOLLOWS:-

FULL MEMBER	\$10.00
FAMILY	\$15.00
STUDENT/PENSIONER	\$ 5.00
LIFE MEMBER	NIL
ASSOCIATE	\$ 7.50

NOTE: ASSOCIATE MEMBERSHIP IS A NEWSLETTER SUBSCRIPTION ONLY.

TO ENABLE ACCURATE RECORDS TO BE KEPT PLEASE COMPLETE THE FOLLOWING INFORMATION AND RETURN IT WITH YOUR SUBSCRIPTION.

NAME _____ CALL SIGN _____

ADDRESS _____

MEMBERSHIP DESIRED FULL/FAMILY/STUDENT-PENSIONER/ASSOCIATE/LIFE

AMOUNT REMITTED \$ _____ DATE _____

88/0710

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